

Vineyard

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A **vineyard** is a plantation of grape-bearing vines, grown mainly for winemaking, but also raisins, table grapes and non-alcoholic grape juice. The science, practice and study of vineyard production is known as viticulture.

A vineyard is often characterised by its *terroir*, a French term loosely translating as "a sense of place" that refers to the specific geographical and geological characteristics of grapevine plantations, which may be imparted in the wine. The precise conditions which a vineyard must maintain are often tightly-regulated and in recent years have become the subject of progressive and often radical change.



The extensive vineyards of the Languedoc-Roussillon region, southern France

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History



Common vineyard (ca. 1910)

The earliest evidence of wine production dates from between 6000 and 5000 BC.^[1] Wine making technology improved considerably with the ancient Greeks but it wasn't until the end of the Roman Empire that cultivation techniques as we know them were common throughout Europe.^[2]

In medieval Europe the Christian Church was a staunch supporter of wine, which was necessary for the celebration of the Catholic Mass. During the lengthy instability of the Middle Ages, the Christian monasteries maintained and developed viticultural practices, having the resources, security, stability and interest in improving the quality of their vines. They owned and tended the best vineyards in Europe and *vinum theologicum* was considered superior to all others.

European vineyards were planted with a wide variety of the *Vitis vinifera* grape. However, in the late 19th century, the entire species was nearly destroyed by the plant louse *phylloxera* accidentally introduced to Europe from North America. Native American grapevines include varieties such as *Vitis labrusca*, which is resistant to the bug, but produce wines with a foxy, animal-like taste. *Vitis vinifera* varieties were saved by being grafted onto the rootstock of native American varieties, although there is still no remedy for *phylloxera*, which remains a danger to any vineyard not planted with grafted rootstock.

The oldest productive vineyard in the world is claimed to be located in Maribor, Slovenia, based largely on

the celebrated *Stara trta*, a 400-year-old grapevine which grows there and was recognized as the oldest living example by the *Guinness Book of Records* in 2004.^[3]

Modern practices

Main article: Viticulture



A vineyard with bird-netting.

microclimate) have largely replaced more general, traditional concepts like "yield per unit area" in favor of "maximizing yield of desired quality". Many of these new techniques have since been adopted in place of traditional practice in the more progressive of the so-called "Old World" vineyards.^[4]



Recently planted vineyard in Medanos, Argentina.

For well over half a century Cornell University, the University of California, Davis, and California State University, Fresno, among others, have been conducting scientific experiments to improve viticulture and educating practitioners. The research includes developing improved grape varieties and investigating pest control. The International Grape Genome Program is a multi-national effort to discover a genetic means to improving quality, increasing yield and providing a "natural" resistance to pests.

The implementation of mechanical harvesting is often stimulated by changes in labor laws, labor shortages, and bureaucratic complications. It can be expensive to hire labor for short periods of time, which does not square well with the need to reduce production costs and harvest quickly, often at night. However, very small vineyards, incompatible widths between rows of grape vines and steep terrain hinder the employment of machine harvesting even more than the resistance of traditional views which reject such harvesting.

Current trends

The quest for vineyard efficiency has produced a bewildering range of systems and techniques in recent years. Due to the often much more fertile New World growing conditions, attention has focussed heavily on managing the vine's more vigorous growth. Innovation in *palissage* (training of the vine, usually along a trellis, and often referred to as "canopy management") and pruning and thinning methods (which aim to optimize the Leaf Area/Fruit (LA/F) ratio relative to a vineyard's



Modern vineyards on the banks of the Rhine river in Germany.

Other recent practices include spraying water on vines to protect them from sub-zero temperatures (aspersion), new grafting techniques, soil slotting, and mechanical harvesting. Such techniques have made possible the development of wine industries in New World countries such as Canada. Today there is increasing interest in developing organic, ecologically sensitive and sustainable vineyards. Biodynamics has become increasingly popular in viticulture. The use of drip irrigation in recent years has expanded vineyards into areas which were previously unplatable. As a consequence of irrigation, yields are more consistent and vintage years virtually irrelevant.^[5]



"Old World" vineyard using modern spacing and trellising methods

Numbers of New World vineyard plantings have been increasing almost as fast as European vineyards are being uprooted. Between



A vineyard in Alexander Valley,
California.

1990 and 2003, U.S. vineyards increased from 292,000 acres (1,180 km²) to 954,000 acres (3,860 km²), while Australian vineyard numbers more than doubled from 146,000 acres (590 km²) to 356,000 acres (1,440 km²) and Chilean vineyards grew from 161,500 acres (654 km²) to 415,000 acres (1,680 km²). The size of individual vineyards in the New World is significant. Europe's 1.6 million vineyards are an average of 0.2 square kilometres each, while the average Australian vineyard is 0.5 square kilometres, providing considerable economies of scale. Exports to Europe from New World growers increased by 54% in the six years up to 2006.^[6]

There are also changes in the kinds of grapes grown. For example, in Chile, large areas of low-quality grapes have been replaced with such grapes as Chardonnay and Cabernet Sauvignon. Grape changes are often in response to changing consumer demand but sometimes result from vine pull schemes designed to promote vineyard change. Alternatively, the development of "T" budding now permits the grafting of a different grape variety onto existing rootstock in the vineyard, making it possible to switch varieties within a two year period.

Local legislation often dictates which varieties are selected, how they are grown, whether vineyards can be irrigated and exactly when grapes can be harvested, all of which in serves to reinforce tradition. Of course, changes in the law can change which grapes are planted. For example, during Prohibition in the U.S. (1920-1933), vineyards in California expanded sevenfold to meet the increasing demand for home-brewing. However, they were largely planted in varieties with tough skins that could be transported across the country to home wine-makers and the resulting wine was of low quality.

Leading wine critic Robert M. Parker, Jr. has had a significant influence on viticulture around the world. His taste preferences have led many growers in Bordeaux, for example, to practice "green harvesting," in which whole grape clusters are removed and discarded during the growing season in order to reduce yields. Also, because of Parker's influence, many growers now strip sections of leaves away from vines to permit more direct sunlight to reach the grapes.

Terroir

Main article: Terroir

Terroir refers to the combination of natural factors associated with any particular vineyard. These factors include such things as soil, underlying rock, altitude, slope of hill or terrain, orientation toward the sun, and microclimate (typical rain, winds, humidity, temperature variations, etc.) No two vineyards have the exact same terroir, although any difference in the resulting wine may be virtually undetectable.

Vineyards are often on hillsides and on soil of marginal value to other plants. A common saying is that "the worse the soil, the better the wine." Planting on hillsides, especially those facing south, is most often in an attempt to maximize the amount of sunlight that falls on the vineyard. For this reason some of the best wines come from vineyards planted on quite steep hills, conditions which would make most other agricultural products uneconomic. The stereotypical vineyard site for wine grapes (in the Northern hemisphere) is a hillside in a dry climate with a southern exposure, good drainage to reduce unnecessary water uptake, and balanced pruning to force the vine to put more of its energy into the fruit, rather than foliage.



Vines growing in volcanic lapilli in
the La Geria region of Lanzarote. The
low, curved walls are traditionally
used to protect the vines from the
constant wind.

Vignette

A vignette is a 500 square metre vineyard which is part of a larger consolidated vineyard. Investors purchase a piece of land within a vineyard, and outsource the grape maintenance and production operations to an outside grape grower or wine producers. Because they are contracting under a co-operative structure, they benefit from economies of scale and hence cheaper labour and operational costs.

See also

- Precision viticulture
- List of vineyard soil types
- Terroir
- Vineyard designated wine
- Viticulture
- Wine
- Clos (vineyard)

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External links

- Story of a vineyard: Cahors (<http://www.francemalbec.com/?article24>)
- US Vineyard and Winery Directory (<http://www.officialwinery.com/winery>)
- Weed Control in the Grape Vineyard (<http://www.oznet.ksu.edu/library/hort2/mf2699.pdf>)

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Hops

From Wikipedia, the free encyclopedia

Hops are the female flower cones, also known as strobiles, of the hop plant (*Humulus lupulus*). The hop is part of the family Cannabaceae, which also includes the genus *Cannabis* (hemp). They are used primarily as a flavoring and stability agent in beer, though hops are also used for various purposes in other beverages and herbal medicine. The first documented use of hops in beer as a bittering agent is from the eleventh century. Prior to this period, brewers used whatever bitter herbs and flowers were around. Dandelion, burdock root, marigold and heather were often used prior to the discovery of hops.^[1] Hops are used extensively in brewing today for their many purported benefits, including balancing the sweetness of the malt with bitterness, contributing a variety of desirable flavors and aromas, and having an antibiotic effect that favors the activity of brewer's yeast over less desirable microorganisms.

The hop plant is a vigorous climbing herbaceous perennial, usually grown up strings in a field called a *hopfield*, *hop garden* or *hop yard* when grown commercially. Many different varieties of hops are grown by farmers around the world, with different types being used for particular styles of beer.

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Hop cone in a Hallertau, Germany, hop yard

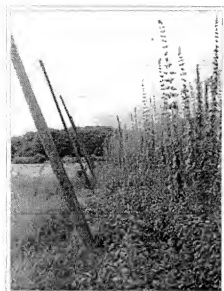
History

The first recorded reference to hops was by Pliny the Elder in his *Naturalis Historia*.^[2] The first documented instance of hop cultivation was in 736, in the Hallertau region of present-day Germany, although the first mention of the use of hops in brewing in that country was 1079.^[3] Not until the thirteenth century in Germany did hops begin to start threatening the use of gruit for flavoring. In Britain, hopped beer was first imported from Holland around 1400; however, hops were initially condemned in 1519 as a "wicked and pernicious weed". In 1471, Norwich, England banned the plant from the use in the brewing of beer, and it wasn't until 1524 that hops were first grown in southeast England. It was another century before hop cultivation began in the present-day United States in 1629.^[4]

World production

Important production centers are the Hallertau Valley in Germany (which, in 2006, had more hop-growing area than any other country in the world),^[5] and the Yakima (Washington) and Willamette (Oregon) valleys

in the United States.^[6] The principal production centres in the UK are in Kent (which produces Kent Goldings hops) and Worcestershire.^{[7][8]} Essentially all of the harvested hops are used in beer making.



A superstructure of overhead wires supports strings that in turn support vines

Global prices for hops (along with barley and malt) are currently on the rise due to a combination of prolonged drought conditions in Australia, North America and New Zealand, a poor harvest in Europe, increasing fuel prices and the rising demand for corn ethanol in the United States.^{[9][10]}

Methods

Hop vines are a climbing plant, similar to beans and peas in that respect. 'Training' (or twiddling) the vines up strings or wires supports plants, allowing the plants significantly greater growth with the same sunlight profile. Energy that would have been required to build structural cells is also freed for crop growth.

Until mechanisation, the need for massed labor at harvest time meant hop-growing had a big social impact. For example, many of those hop picking in Kent, a hop region first mechanised in the 1960s, were Eastenders. For them, the annual migration meant not just money in the family pocket but a welcome break from the grime and smoke of London. Whole families would come down on special trains and live in hoppers' huts and gradients for most of September, even the smallest

children helping in the fields.^{[11][12]}

In Kent, the numbers of hop-pickers who came down from the city meant that many growers issued their own currency to those doing the labor. In some cases, the coins issued, often adorned with fanciful hops images, were themselves quite beautiful. As the currency could in the main be spent only at the company store, this was effectively a truck system.^[13]

Sonoma County in California was, pre-mechanization, a major US producer of hops. As in other hop-growing regions, the labor-intensive harvesting work involved large numbers of migrant workers traveling from other parts of the state or elsewhere for the annual hop harvest.^{[14][15]} During the Great Depression, many workers were migrant laborers from Oklahoma and the surrounding region who had recently come to California. Others included locals, particularly older school children. Sometimes whole families would work in the harvest. The remnants of this significant hop industry are still noticeable in the form of old hop kilns that survive in Sonoma County. In part because of the hop industry's importance to the county, local Florian Dauenhauer of Santa Rosa, the seat of Sonoma County, created one of the earliest and most significant hop-harvesting machines but ironically this mechanization helped destroy the local industry.^[14] It enabled large-scale mechanized production which moved to larger farms in other areas.

As of 2005, the ten leading countries for hop cultivation (based on reported total production^[16]) were:

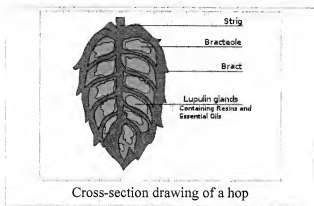
Hop producing country ^[6]	Output in tonnes (t) ^[6]
Germany	34,438
USA	23,494
China	10,576
Czech Republic	7,831
Poland	3,414
Slovenia	2,539

United Kingdom	1,693
Spain	1,537
Ukraine	1,474
France	1,372

Brewing

Hops are dried in an oast house before they are used in the brewing process.^[17] Hop resins are composed of two main acids: alpha and beta acids.^[18]

Alpha acids have a mild antibiotic/bacteriostatic effect against Gram-positive bacteria, and favor the exclusive activity of brewing yeast in the fermentation of beer. Alpha acids are responsible for the bitter flavor in the beer.



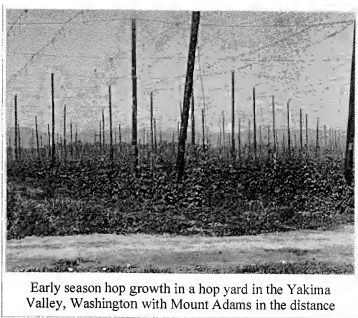
newer American species typically ranging from 8–19% aabw. Aroma hops usually have a lower concentration of alpha acids (~5%) and are the primary contributors of hop aroma and (non-bitter) flavor. Bittering hops are boiled for a longer period of time, typically 60–90 minutes, in order to maximize the isomerization of the alpha acids. They often have inferior aromatic properties, as the aromatic compounds evaporate off during the boil.

The degree of bitterness imparted by hops depends on the degree to which otherwise insoluble alpha acids (AAs) are isomerized during the boil, and the impact of a given amount of hops is specified in International Bitterness Units (IBUs). Unboiled hops are only mildly bitter. On the other hand, the (non-bitter) flavor and aroma of hops come from the essential oils, which evaporate during the boil.

Aroma hops are typically added to the wort later to prevent the evaporation of the essential oils, to impart "hop flavor" (if during the final 10 minutes of boil) or "hop aroma" (if during the final 3 minutes, or less, of boil). Aroma hops are often added after the wort has cooled and the beer has fermented, a technique known as "dry hopping" which contributes to the hop aroma. The four major essential oils in hops are Myrcene, Humulene, Caryophyllene, and Farnesene which comprise about 60–80% of the essential oils for most hop varieties.

Today there is a substantial amount of "dual-use" hops as well, which have high concentrations of alpha acids and good aromatic properties. These can be added to the boil at any time, depending on the desired effect.^[19]

Flavors and aromas are described appreciatively using terms which include "grassy", "floral", "citrus",



Beta acids do not isomerize during the boil of wort, and have a negligible effect on beer flavor. Instead they contribute to beer's bitter aroma, and high beta acid hop varieties are often added at the end of the wort boil for aroma. Beta acids may oxidize into compounds that can give beer off-flavors of rotten vegetables or cooked corn.

The effect of hops on the finished beer varies by type and use, though there are two main hop types: bittering and aroma. Bittering hops have higher concentrations of alpha acids, and are responsible for the large majority of the bitter flavor of a beer. European (so called "noble") hops typically average 5–9% alpha acids by weight, and the

"spicy", "piney," "lemony," and "earthy". Most of the common commercial lagers have fairly low hop influence, while true pilseners should have noticeable noble hop aroma and certain ales (particularly the highly-hopped style known as India Pale Ale, or IPA) can have high levels of bitterness.

Undried or "wet" hops are sometimes used.^[20]

Hop varieties

Main article: List of hop varieties

Particular hop varieties are associated with beer regions and styles, for example pale lagers are usually brewed with European (often German and Austrian, since 1981 also Czech) noble hop varieties such as Saaz, Hallertau and Strissel Spalt. British ales use hop varieties such as Fuggles, Goldings and Bullion. North American beers use Cascade hops, Columbia hops, Centennial hops, Willamette hops and Amarillo hops.

Noble hops

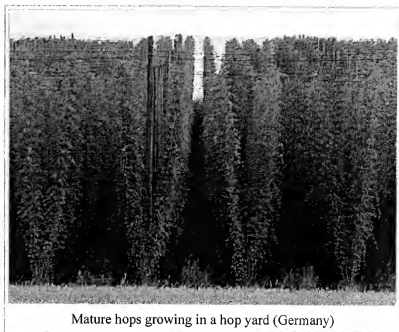
The term *noble hops* traditionally refers to four varieties of hop which are low in bitterness and high in aroma. They are the central European cultivars, Hallertau, Tettmanger, Spalt, and Saaz.^[21] They are each named for a specific region or city in which they were first grown or primarily grown – Hallertau, Tettmang, Spalt in Germany, and Saaz in former Austria, since 1918 resp. 1945 Žatec, Czechoslovakia. They contain high amounts of the hop oil humulene and low amounts of alpha acids cohumulone and adhumulone, as well as lower amounts of the harsher-tasting beta acids lupulone, colupulone, and adlupulone.

Their low relative bitterness but strong aroma are often distinguishing characteristics of European-style lager beer, such as Pilsener, Dunkel, and Oktoberfest/Märzen. In beer, they are considered aroma hops (as opposed to bittering hops); see Pilsner Urquell as a classic example of the Bohemian Pilsener style, which showcases Noble hops.

As with grapes, land where the hops were grown affects the hops' characteristics. Much as Dortmunder beer may only within the EU be labelled "Dortmunder" if it has been brewed in Dortmund, Noble hops may only officially be considered "Noble" if they were grown in the areas for which the hops varieties were named.

Some consider the English varieties Fuggle and East Kent Goldings to be noble. They are characterized through analysis as having an alpha:beta ratio of 1:1, low alpha-acid levels (2–5%) with a low cohumulone content, low myrcene in the hop oil, high humulene in the oil, a ratio of humulene:caryophyllene above three, and poor storability resulting in them being more prone to oxidation. In reality this means that they have a relatively consistent bittering potential as they age, due to beta-acid oxidation, and a flavor that improves as they age during periods of poor storage.

The term *Noble Hop* is a traditional designation for hops grown in four areas in Southern Germany, mainly Bavaria. Saaz in Austrian Bohemia resp. Sudetenland, though, became part of Czechoslovakia after 1918, as Žatec, and the German population was expelled in 1945. The traditional names are like the French appellations for grapes & wine. Historically, these regions produced superior quality hops, particularly well



Mature hops growing in a hop yard (Germany)

suitied for continental European style beers. Hops grown outside these regions cannot be 'Noble Hops' but nonetheless may be excellent hops.

- **Hallertau or Hallertauer** – The original German lager hop; named after Hallertau or Holledau region in central Bavaria. Due to susceptibility to crop disease, it was largely replaced by Hersbrucker in the 1970s and 1980s. (Alpha acid 3.5–5.5% / beta acid 3–4%)
- **Saaz** – Noble hop used extensively in Bohemia to flavor pale Czech lagers such as Pilsner Urquell. Soft aroma and bitterness. (Alpha acid 3–4.5% / Beta acid 3–4.5%)
- **Spalt** – Traditional German noble hop from the Spalter region south of Nuremberg. With a delicate, spicy aroma. (Alpha acid 4–5% / beta acid 4–5%)
- **Tettnang** – Comes from Tettnang, a small town in southern Baden-Württemberg in Germany. The region produces significant quantities of hops, and ships them to breweries throughout the world. Noble German dual use hop used in European pale lagers, sometimes with Hallertau. Soft bitterness. (Alpha Acid 3.5–5.5% / Beta Acid 3.5–5.5%)

Other uses

The only major commercial use for hops is in beer, although hops are also an ingredient in Julmust, a carbonated beverage similar to soda that is popular in Sweden during December, as well as malta, a Latin American soft drink. Tom's of Maine deodorant uses hops for its antibacterial activity.^[22] Hops are also used in herbal medicine in a way similar to valerian, as a treatment for anxiety, restlessness, and insomnia. A pillow filled with hops is a popular folk remedy for sleeplessness. Hops may be used alone, but more frequently they are combined with other herbs, such as valerian. The relaxing effect of hops is largely due to a specific chemical component: dimethylvinyl carbinol.^[23] Hops tend to be unstable when exposed to light or air and lose their potency after a few months' storage.^[24]

See also

- Gruit
- Mugwort an herb historically used as a bitter in beer production
- Rhamnus prinoides

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Categories: Brewing | Medicinal plants

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Humulus

From Wikipedia, the free encyclopedia
(Redirected from Hop (plant))

Humulus, (***Hop***) is a small genus of flowering plants native to temperate regions of the Northern Hemisphere. The female flowers (often called "cones") of *H. lupulus* are known as hops, and are used as a culinary flavoring and stabilizer, especially in the brewing of beer. The hop is part of the family *Cannabaceae*, which also includes the genus *Cannabis* (hemp).

Contents

- 1 Description
- 2 Species
- 3 Hop varieties
- 4 References
- 5 External links

Description

Although frequently referred to as the hop "vine", it is technically a bine; unlike vines, which use tendrils, suckers, and other appendages for attaching themselves, bines have stout stems with stiff hairs to aid in climbing. It is a perennial herbaceous plant which sends up new shoots in early spring and dies back to the cold-hardy rhizome in autumn. Hop shoots grow very rapidly and at the peak of growth can grow 20 to 50 centimetres (8 to 20 in) per week. Hop bines climb by wrapping clockwise around anything within reach, and individual bines typically grow between 2 to 15 metres (7 to 50 ft) depending on what is available to grow on. The leaves are opposite, with a 7 to 12 cm (2.8 to 4.7 in) Petiole and a cordate-based, palmately lobed blade 12 to 25 cm (4.7 to 9.8 in) and broad; the edges are coarsely toothed. When the hop bines run out of material to climb, horizontal stems sprout between the leaves of the main stem to form a network of stems wound round each other.

Species

There are three species, one with five varieties:

- Humulus japonicus* (syn. *H. scandens*). Asian Hop. Leaves with 5–7 lobes. Eastern Asia.
- Humulus lupulus*. Common Hop. Leaves with 3–5 lobes. Europe, western Asia, North America.
 - Humulus lupulus* var. *lupulus*. Europe, western Asia.
 - Humulus lupulus* var. *cordifolius*. Eastern Asia.
 - Humulus lupulus* var. *lupuloides* (syn. *H. americanus*). Eastern North America.
 - Humulus lupulus* var. *neomexicanus*. Western North America.
 - Humulus lupulus* var. *pubescens*. Midwest North America.

Hop



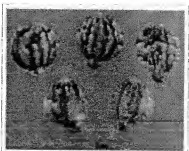
Common Hop plant (*Humulus lupulus*)

Scientific classification

Kingdom: Plantae
Division: Magnoliophyta
Class: Magnoliopsida
Order: Rosales
Family: Cannabaceae
Genus: ***Humulus***
L.

Species

Humulus lupulus L.
Humulus japonicus Siebold & Zucc.
Humulus yunnanensis Hu



Humulus japonicus seeds

- *Humulus yunnanensis*. Yunnan Hop. Leaves with 3–5 lobes, densely hairy below. Southeast Asia (endemic in Yunnan, China).

Brewers' hops are specific cultivars, propagated by asexual reproduction: see List of hop varieties.

Hop varieties

Main article: List of hop varieties

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External links

- Jeanine S. DeNoma: *Humulus Genetic Resources* (USDA ARS National Clonal Germplasm Repository) (<http://www.ars.usda.gov/Main/docs.htm?docid=11069>)
- Portal to many sites on hopping and society (http://www.geocities.com/transport_and_society/hopping.html)
- Hops varieties research (<http://www.uvm.edu/~pass/perry/hops.html>)

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Categories: Medicinal plants | Cannabaceae | Stem vegetables

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Orchard

From Wikipedia, the free encyclopedia

An **orchard** is an intentional planting of trees or shrubs maintained for food production. Orchards comprise fruit or nut-producing trees grown for commercial production. Orchards are also sometimes a feature of large gardens, where they serve an aesthetic as well as a productive purpose.^[1] A **fruit garden** is generally synonymous with an orchard, although it is set on a smaller non-commercial scale and may emphasize berry shrubs in preference to fruit trees.

Most temperate-zone orchards are laid out in a regular grid, with a grazed or mown grass or bare soil base that makes maintenance and fruit gathering easy.

Orchards are often concentrated near bodies of water, where climatic extremes are moderated and blossom time is retarded until frost danger is past.

The forest garden is a food production system that is closely related to the orchard. A move towards more ecologically-friendly coffee production has led to forest-garden production of coffee. Brazil Nuts and rubber are being produced in such a method in some areas.

Often, mixed orchards are planted. In Europe quince is sometimes planted along with apples.



A lemon orchard in the Upper Galilee of Israel.



A community apple orchard originally planted for productive use during the 1920s, in Westcliff on Sea (Essex, England)

Contents

- 1 Meadow orchard (Streubstwiese)
- 2 Crops
- 3 Orchards by region
- 4 Towns associated with orchards
- 5 Airports associated with orchards
- 6 Historical orchards
- 7 See also
- 8 References
- 9 External links



Streubstwiese, a rural community orchard, traditionally for productive use. Today endorsed for its quality of habitat and biodiversity

Meadow orchard (Streubstwiese)

Streubstwiese (pl. *Streubstwiesen*) is a German word that means a meadow with scattered fruit trees or fruit trees planted in a field.^[2] Streubstwiese, or a **meadow orchard**,^[3] is a traditional landscape in the temperate, maritime climate of continental Western Europe. In the 19th and early 20th centuries, Streubstwiesen were a kind of a rural community orchard intended for productive cultivation of stone fruit. In recent years, ecologists have successfully lobbied for state subsidies to valuable habitats, biodiversity, and natural landscapes, which are also used to preserve old meadow orchards. Both conventional and meadow orchards provide a suitable habitat for many animal species that live in a cultured landscape. A notable example is the hoopoe that nests in tree hollows of old fruit trees and, in the absence of alternative nesting sites, is threatened in many parts of Europe because of the destruction of old orchards.^[4]

Crops

Tropical areas

- Banana
- Cacao
- Coconut
- Coffee
- Durian
- Guava
- Mango
- Papaya
- Rambutan
- Tea

Subtropical areas

- Citrus
- Date Palm
- Lychee

Avocado Macadamia nuts Custard apple

Temperate areas

- Apple
- Apricots
- Bayberry
- Blackberry
- Blueberry
- Cherry

- Chestnut
- Cranberry
- Ginkgo nuts
- Governor's plum
- Hazel
- Peach
- Pear
- Pecan
- Walnut
- Persimmon
- Plum
- Raspberry
- Sand pear

Orchards by region

The most extensive orchards in the United States are apple and orange orchards, although citrus orchards are more commonly called groves. The most extensive apple orchard area is in eastern Washington state, with a lesser but significant apple orchard area in most of Upstate New York. Extensive orange orchards are found in Florida and southern California. In eastern North America many orchards are along the shores of Lake Michigan (such as the Fruit Ridge Region), Lake Erie, and Lake Ontario.

In Canada, apple and other fruit orchards are widespread on the Niagara Peninsula, south of Lake Ontario. This region is known as *Canada Fruitland* and, in addition to large-scale commercial fruit marketing, it is a favorite playground for "pick-your-own" activities in the summer.

Murcia is a major orchard area in Europe, with citrus crops. New Zealand, China, Argentina, and Chile also have extensive apple orchards.

Towns associated with orchards

Tenbury Wells in Worcestershire has been called *The Town in the Orchard* since the 19th century because it was surrounded by extensive orchards. Today this heritage is celebrated through an annual Applefest.^[5]

Airports associated with orchards

- ORD
- Orchard Field

Historical orchards

- Orchard House in Concord, Massachusetts the residence of American celebrated writer Louisa May Alcott
- Fruita, Utah part of Capitol Reef National Park has Mormon Pioneer orchards maintained by the United States National Park Service.



Apple orchards in Azwell, Washington surrounding a community of pickers' cabins



Sour cherry orchard on Lake Erie shoreline (Leamington, Ontario)

See also

- Berries
- Citrus
- Drupe
- Forest garden
- Fruit
- Fruit tree forms
- Fruit tree pollination
- Fruit tree propagation
- Fruit trees
- Pruning fruit trees

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- ⁵. [^] Tenbury Applefest (<http://www.applefest.org.uk/>)

External links

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- North American Fruit Explorers (<http://www.nafex.org/>)
- Orchards pathway on England In Particular (<http://www.england-in-particular.info/>)
- Pennsylvania tree fruit production guide; a guide on how to set up an orchard in practice (<http://ssfruit.cas.psu.edu/>)
- Traditional Orchards A Summary (<http://naturalengland.communisis.com/NaturalEnglandShop/product.aspx?ProductID=1a6da43e-b42f-456d-879d-49434fb6c711>) by Natural England. Other free publications are also available in the same series on this website.
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Categories: Agricultural establishments | Horticulture and gardening

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tree car (noun)

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Main Entry: 'tree'

Pronunciation: /tri:/

Function: noun

Etymology: Middle English, from Old English *trēow*; akin to Old Norse *trē* tree, Greek *dryś*, Sanskrit *dāru* wood

Date: before 12th century

1 a : a woody perennial plant having a single usually elongate main stem generally with few or no branches on its lower part b : a shrub or herb of arborescent form <rose tree> <a banana tree>

2 a (1) : a piece of wood (as a post or pole) usually adapted to a particular use or forming part of a structure or implement (2) *archaic* : the cross on which Jesus was crucified b *archaic* : GALLOYS

3 : something in the form of or resembling a tree: as a : a diagram or graph that branches usually from a simple stem or vertex without forming loops or polygons <a genealogical tree> <phylogenetic tree> b : a much-branched system of channels especially in an animal body <the vascular tree>

4 : **SADDLE TREE**

— tree-less \-ləs/ adjective

— tree-like \-līk/ adjective

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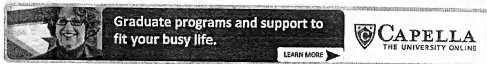
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Pronunciation: /vɪn/

Function: **noun**

Etymology: Middle English, from Anglo-French *vigne*, from Latin *vinea* vine, vineyard, from feminine of *vineus* of wine, from *vinum* wine — more at **WINE**
Date: 14th century

1 : **GRAPE** 2

2 a : a **plant** whose **stem** requires support and which climbs by tendrils or twining or creeps along the ground; *also* : the stem of such a plant b : any of various sprawling herbaceous plants (as a tomato or potato) that lack specialized adaptations for climbing

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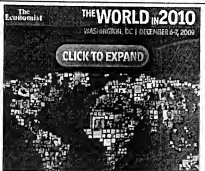
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